

International Farm Prices and the Social Cost of Cheap Food Policies: Comment

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The purpose of this note is to show that the prices which Peterson computed for his recent paper also can be viewed as effective exchange rates. Deviations from the world relative price system in agriculture are usually the result of market intervention, taxes, or subsidies. Such distortions, whether they are the result of domestic or of trade policies, can be viewed as distortions in effective exchange rates. For international comparisons, the exchange rate view is, analytically and conceptually, more general and convenient.

Peterson's wheat equivalent price, \hat{p}_i for the commodity i , is defined as

$$(1) \quad \hat{p}_i = p_i(\bar{p}_w/\bar{p}_i),$$

where p_i is the local currency farm price of the commodity i ; \bar{p}_i and \bar{p}_w are, respectively, the world dollar price of the commodity and wheat. The prices \hat{p}_i are expressed in local currencies and calculated for each commodity in every country (the country index is omitted here).

The aggregate overall average output price for each country is

$$(2) \quad P = \sum \hat{p}_i w_i,$$

where the weights are $w_i = (\bar{p}_i q_i)/(\sum \bar{p}_i q_i)$, with q_i being the quantity of commodity i .

Equation (2) can be rewritten as

$$(2') \quad P = \frac{\bar{p}_w \sum (p_i/\bar{p}_i) w_i}{\bar{p}_w} = E$$

The dimension of E is local currency per dollar.

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Thus, it is the effective farm product exchange rate. E is the value in local currency of the quantity of a composite bundle of domestic farm products that will fetch one dollar on world markets.

Peterson defined the real price as P/p_f —output price divided by the country's local price of fertilizers. Comparing countries, we are interested in price differences or ratios of real prices. In such ratios, world prices cancel out, and we can write the real prices as

$$(3) \quad R = (\bar{p}_f/\bar{p}_w)(P/p_f) \\ = E \frac{\bar{p}_f}{p_f},$$

where \bar{p}_f is the world dollar price of fertilizers. If one views, with Peterson, cross-country differences in fertilizer prices as representing differences in the average price of production factors, then p_f/\bar{p}_f is the effective exchange rate in the farm input market.

In equation (3), R explicitly reflects the agricultural exchange rate. Differences between countries in their R values are due to effective exchange rate distortions in the product and in the factor markets. Therefore, Peterson's supply equation can be interpreted more generally as a response function to effective exchange rate distortions. These distortions reflect market interventions stemming from both domestic and trade policies.

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Reference

- Peterson, Willis L. "International Farm Prices and the Social Cost of Cheap Food Policies." *Amer. J. Agr. Econ.* 61(1979):12-21.